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ABSTRACT

The information in this update has been selected and presented because it appears relevant and useful to teacher trainers who are working with teachers to ensure that all students learn, as well as achieve, throughout their school experience. The sections of the update parallel the five major strands of the scope of work for the Theme E project. The update points out that while other factors can facilitate increasing the achievement of students, five of the key factors are reading, writing, thinking skills, partnerships (such as with parents, businesses), and technology (such as computers, video discs, satellite instruction). The update highlights information about reading instruction and what teachers should keep in mind as they prepare to use reading as a tool for improving student achievement. Additional information is provided, in a briefer form, regarding the other four strands for use in helping teachers maximize student achievement. (RS)

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A SEDL Update

KEEPING UP
On Student Achievement...

Volume 1 Fall, 1988

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OVERVIEW

Increasing student achievement in school is one of the major goals of efforts aimed at improving schools and making them more effective. Educators, parents, and members of the larger community all have some level of responsibility in accomplishing this goal. Two groups in particular, teachers and teacher trainers, are most critical to helping students achieve at higher levels. Teachers are important to this process since they provide the fundamental learning opportunities and experiences which can lead to successful school performance. In addition, teacher trainers play an important role since they provide the knowledge, understanding, skills, and experiences for teachers to use in classrooms where students are to grow, develop, learn, and achieve.

It is the teacher trainer group to which this publication is directed. The expectation is that those involved in the preparation of teachers, both at the preservice and inservice levels, will be able to use the information in this update as they prepare, then provide specific training activities, to help teachers enhance the achievement of their students, particularly those in grades K-12.

The information in this update has been selected and presented because it seems to be very relevant and useful to teacher trainers who are working with teachers to ensure that all students learn, as well as achieve, throughout their school experience. No attempt is made to directly link the information to a process or model for increasing student achievement. The information in each section, however, will contribute to the processes teachers are using or can be taught to use in their classrooms that lead to improved achievement for all learners.

The sections of this update parallel the five major strands of the scope of work for SEDL's Theme E. While other factors can facilitate increasing the achievement of students, five of the key ones are reading, writing, thinking skills, partnerships (e.g., with parents, businesses), and technology (e.g., computers, video discs, satellite instruction). This update highlights information about reading instruction and what teachers should keep in mind

KEEPING UP is a series of updates produced by Southwest Educational Development Laboratory (SEDL) as part of its programmatic theme "on" Facilitating Student Achievement with Reading, Writing, Thinking Skills; Partnerships; and Technology. It provides information for those involved with teacher preparation. Send information, suggestions, and comments to Dr. Ida Jean Holman, SEDL, 211 East 7th Street, Austin, TX 78701.

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as they prepare to use it as a tool for improving student achievement. Additional information is provided, but in a briefer form, regarding the other four Theme E strands for use in helping teachers maximize student achievement.

STUDENT ACHIEVEMENT AND READING

Learning how to read successfully is a very important aspect of schooling for students in order for them to achieve at their highest possible levels. Teachers and parents are critical to this success as are teacher trainers who mostly help teachers, but sometimes help parents also develop the expertise that enables students to become proficient in reading.

To assist teacher trainers in preparing teachers for increasing student achievement through reading, the Educational Testing Service's (ETS) recent National Assessment of Educational Progress (NAEP) report provides some useful insights. The report's database includes findings obtained through a national assessment of reading achievement for nearly 36,000 school children in grades 3, 7, and 11 across the United States.

The report's overall outcomes suggest six guidelines for reading instruction to follow as a means of helping to increase student achievement. They are:

1. pay special attention to learner skills in the areas of (1) elaborating upon or defending evaluations of information read; and (2) elaborating upon or defending interpretations of information read;
2. provide poor readers with more varied school reading experiences than they currently receive;
3. continue, and expand where possible, a variety of approaches for skill development before, during, and after student reading activities;
4. include a wider range of approaches for poor readers, especially ones that emphasize comprehension, critical thinking, and decoding strategies;
5. address the needs of at-risk-students to help maximize their school performance; and
6. enhance the academic nature of all learner experiences by requiring increased regular amounts of time spent on homework each day and establishing home support for reading.

Seven behavioral traits of successful readers were identified in the report:

1. reading novels
2. having interested parent(s)
3. visiting the library
4. watching little television
5. reading often
6. using content to derive meaning for passages read
7. doing homework.

Teachers should look for these traits and help students develop them as an integral part of their reading behavior.

Teacher trainers should help teachers realize how significant a role that teachers play in developing successful reading skills and abilities through classroom instruction and supplementary home activities. The NAEP study indicates that students reported having the following kinds of experiences before, during, and after reading instruction at grade levels 3, 7, and 11:

Before Reading

- previews what is to be read
- points out hard words
- reads new parts aloud to class

During Reading

- gives list of questions as students read

After Reading

- tells how to find main idea
- asks how one idea is like another*
- asks reader's opinion*
- asks reader to support own idea*

* for 7th and 11th grade students only

Reports from students about the occurrence of these kinds of activities during reading instruction suggest that, while teachers use a variety of instructional strategies to assist students' comprehension at various stages of their reading experiences, perhaps even more emphasis on such activities is desirable. This should be useful to teacher trainers in preparing and delivering teacher training in the area of teaching students to read.

With regard to reading instruction in general, the report's findings support three findings substantiated in previous NAEP reading studies that can also be useful for teacher trainers and teachers. First, many U. S. school students can read with surface understanding. Second, many more have difficulty when asked to think more deeply about what they have read. Third, they experience problems in defending or elaborating upon their ideas and communicating these in writing. For teacher trainers and teachers, the following conclusion from the report seem pertinent:

- reading instruction at all grade levels must be restructured to ensure that students learn to reason more effectively about what they have read and;
- all students need to develop effective strategies for thinking about, elaborating upon, and communicating what they have learned.

The report indicates that students often are asked to participate in reading activities both in and out of school. Most responses indicate that students typically read in school for two specific purposes: (1) to learn something new and (2) to answer questions about what they have learned. Interestingly, at the 3rd grade level, reading for learning was more emphasized; whereas reading to answer questions received more emphasis in grade 11. With regard to out-of-school reading, students report that mostly they read to relax or pass the time.

Most 3rd grade students reported that they engaged in daily independent reading. This, however, was more frequently reported by better readers than by poorer readers. In terms of different types of materials, better readers mostly read stories. Better readers in 7th and 11th grade reported mostly reading newspapers and magazines, followed somewhat closely by reading stories or novels. Poorer readers reported reading more biographies and comic books.

The report indicates that using the library as a resource is important in the development of reading abilities. While most 7th grade students reported fairly regular use of the library, it was more prevalent among better readers than poorer readers. Also, better readers tended to use the library for looking up information for school and getting books to take out, whereas poorer readers used the library for quiet reading and finding books concerning their hobbies.

Students in the study were asked to provide information about their own early school experiences. In particular, each was queried about (1) whether he or she had attended day care, preschool or nursery and (2) whether he or she had attended kindergarten. The study reports that about one half of the students at all three grade levels reported having some kind of preschool or day care experience.

The results indicate that most of the readers with such experiences had slightly higher reading proficiency levels. Based upon student reports concerning home support for reading, the results revealed that (1) the more reading materials available in homes, the better student reading proficiency levels appear to be and (2) students whose families are more attentive to homework more often experienced school success.

Summary

As teacher trainers prepare teachers for more successful instruction in reading, their training activities should reinforce the NAEP study's conclusion that students who have more academically oriented and challenging experiences, that

are supported at home and at school will most likely become proficient readers. The report states that while this is hardly a new conclusion, the study's finding is a reminder to all educators (teacher trainers and teachers especially) that these supportive environments continually must be provided for all students. Further, they are necessary as support measures to those students (e.g., poor, minority, handicapped) for whom such experiences are neither obvious nor close-at-hand.

Thus, both educators and parents are reminded that they must strive even harder to provide supportive environments at home and at school to nurture success in reading, as well as other areas of schooling. This includes making reading experiences available to those students that are usually unavailable.

The NAEP report emphasizes that students must learn to reason more effectively and, in the process, develop skills in synthesizing and analyzing, as well as extending their ideas and knowledge. Because they play important roles in reading instruction, teacher trainers and teachers must make sure that this involves helping students learn how to orchestrate their content knowledge and the methods they use to derive meaning from the printed word.

In addition, teachers should be trained to further develop student reading proficiency by:

- improving their abilities to interpret the information they read based upon existing knowledge;
- acquiring a "bag" of reading strategies from which to select appropriate ones for specific situations; and
- learning to monitor, as they read, their developing understanding of what was read to ensure that they leave the reading experience or activity with the ability to use, describe, defend, or build upon what they have read.

The NAEP report suggests that the study's findings can be of value to teachers who are looking for evidence to confirm their hunches about good instructional practice. Further, it suggests that principals and reading supervisors will find that these results are clues to success, as well as failure, in their schools and/or districts. Also, the report indicates that reading researchers could uncover relationships from the results that lead to new areas of research and/or additional support for what is known to be effective in the field of reading.

Finally, SEDL's Theme E staff suggests that the report's findings can be most useful to teacher trainers as they conceptualize, develop, and provide viable reading instruction approaches, strategies, and activities for teachers to employ as they work with their students. Improving reading instruction should lead to better reading experiences for students and overall improved achievement.

Source

Applebee, A.N., Langer, J. A., & Mullis, I.V.S. (1988, February). *Who Reads Best? Factors Related to Reading Achievement in Grades 3, 7, and 11.* (Report No. 17-R-01). Princeton, N.J.: Educational Testing Service.

STUDENT ACHIEVEMENT AND WRITING

Learning to write more effectively, and enjoy it, is re-emerging as integral to the success of students in school. As early as preschool, learners are being exposed to basic writing process skills (e.g., forming letters, making words). Unfortunately, the continued emphasis on perfecting manuscript (printing) and cursive (writing) letter forms by teachers has overshadowed the need for developing skills among students that enable them to develop writing skills that lead to *concise, legible, understandable*, and *personally rewarding* communication.

Teacher trainers can play a major role in helping teachers integrate students' writing activities more with their overall schooling experiences. Often

this does not require "re-inventing the wheel," but rather, identifying and using currently available resources for preparing teachers to teach writing.

One especially valuable resource is the California State Department of Education's *Handbook for Planning an Effective Writing Program in Grades Kindergarten through Twelve* (1986). Teacher trainers can use the *Handbook* to provide teachers with concrete information about developing more effective approaches to the teaching of writing. Teacher trainers should help teachers understand the basic principles (according to the *Handbook*) of an effective writing program are:

- planning a schoolwide effort with writing as part of learning in all curricular areas;
- providing a wide array of writing learning experiences across all subject areas;
- building upon learner interests in and on reading/oral language experiences;
- developing fluency for learners at various levels prior to fear of error;
- providing adequate time-on-task learning process experiences;
- including inservice/staff development of instructional staff; and
- assisting learners to discover that writing enables them to learn about themselves, develop thinking skills, generate new ideas, and survive in a complex society.

This process, according to the *Handbook* , involves several stages. Teacher trainers can enable teachers to improve their writing instruction by helping them identify, understand the purpose of, and use the following writing process stages:

- *Prewriting* — experiences, activities, and exercises that motivate one to write;
- *Writing* — the written expression of a writer's ideas synthesized from one or more experiences;
- *Responding* — reacting to what was written through questions, suggestions, and statements;
- *Revising* — the process during which writers "resee" and "rethink" pieces of their writing several times as it is being written or reread;
- *Editing* — the refinement stage of writing;
- *Developing skills with writing conventions* — becoming adept in vocabulary, spelling, punctuation, word/language usage, and grammatical constructions;
- *Evaluating* — judging students' writing in a constructive manner at all stage levels of the writing process; and
- *Postwriting* — activities that students, as well as teachers, can do with a completed piece of writing.

Teacher trainers should emphasize that students need to be aware of these stages, but should see them as part of an integrated process and not a strict sequence.

In preparing teachers to develop and implement writing instruction programs, teacher trainers should help them recognize characteristics of students from effective programs. According to The *Handbook* such students:

- believe what they have to say is important;
- are motivated to write because they feel they have something important to say;
- write fluently, coherently, and correctly with economy of expression;
- are unafraid of putting ideas on paper for others to consider;
- understand the importance of writing in all subject matter/content areas;
- can write in various styles and for various audiences and purposes;
- engage readily in revising and editing early drafts of writing;
- begin writing tasks without spending unnecessary time staring at a blank page; and
- enjoy writing.

The *Handbook* indicates that writing is a valuable tool for helping students learn and retain information in all content areas. Experience with various kinds of writing in each content area can increase mastery of content in these areas. The

process of ordering thoughts while writing enables students to better understand a subject than they would without the writing experience. Thus, teacher trainers need to make sure teachers understand that writing establishes a method through which students can express themselves, organize thoughts and information, communicate ideas and feeling, and demonstrate their understanding of subject matter. Through the success experienced in the writing process, students can enhance their achievement in classrooms, schools, and life.

Source

Handbook Writing Committee. (1986). *Handbook for Planning an Effective Writing Program in Grades Kindergarten through Twelve.* (G.F. Nementz & T. R. Smith, Director & Editor). California State Department of Education.

STUDENT ACHIEVEMENT AND THINKING SKILLS

Teaching and learning thinking skills in kindergarten through grade 12 of our public schools has re-emerged as an area of need, as well as concern, in public education today. Some of the discussion focuses on the definition of thinking skills, while concurrent debate is ongoing with respect to levels of thinking skills. Still others are engaged in divergent discussions as to whether thinking skills should and/or can be taught. In addition, fervent debates are underway as to how, when, and where the teaching of thinking skills should occur. Obviously, the problem regarding thinking skills in education is a complex one, but one that requires some consensus in order for teaching, learning, and student achievement to be successful.

Teacher trainers, as they work with teachers to explain why the teaching of thinking has not been more successful, can use the overt conditions suggested by Raths et al. (1966). These conditions include:

- widespread use of classroom materials that emphasize low-level cognitive skill acquisition;
- use of instructional strategies that heavily emphasize information dissemination;
- lack of use of questioning strategies calling for students to think about information instead of just to resurrect it;
- failure of teacher training to assist prospective, as well as practicing, teachers to develop competence in teaching thinking; and
- excessive dependence on standardized tests and classroom exams that emphasize low-level cognitive skill usage.

Although it will not be easy to do, Raths et al. indicate that understanding three basic principles upon which thinking programs can be developed will enhance the potential for putting the teaching of thinking into classroom practice. These principles are:

- "practice makes perfect" (i.e., practice in a task over time works toward increased competence);
- knowledge is needed about the kinds of tasks one needs to practice to achieve the desired outcomes; and
- knowledge is needed about how teachers' interactions with students can contribute to or lessen their skill development.

Chuska (1986) proposes a plan for successfully developing an articulated K-12 thinking program that teacher trainers can use to prepare teachers. The plan includes:

- a common thinking vocabulary for teachers across all grade levels and subject/content areas;
- identifiable curriculum common denominators that indicate commonalities for all grade levels and subject/content areas;
- delineated ways of thinking to give focus to instruction;
- a manageable plan for implementation, monitoring, and evaluation;
- clear distinctions between process and product with respect to thinking; and
- an inservice program to acquaint teachers with model elements and provide them

with a background of other major teaching thinking models.

Chuska indicates that as teacher trainers provide knowledge and experiences for teachers to teach thinking skills there is a need to know and understand the four conditions necessary for thinking to take place and for the results of such thinking to be productive. These are:

- There must be something to *think about* (e.g., actions, events, ideas, issues).
- There must be something to *think with* (e.g., beliefs, emotions, facts, experiences).
- There must be some *ways* in which *to think* (e.g., comparing, estimating, imagining, predicting).
- There must be something *to think for* (e.g., solve a problem, improve what exists, set goals, make future plans).

Thus, according to Chuska, if teacher training can enable teachers to help students know and understand what they are thinking *for*, then they will know what to think *about*, what information they will need to think *with*, and which *ways* of thinking to use for their purposes of thinking in the first place.

Assessing students' progress in the area of thinking skills is an important part of any program. Chuska recommends several strategies that help determine how well students are mastering thinking skills. These include teachers' learning how to monitor instances where students:

- back up statements with data and valid reasoning;
- recognize missing information;
- produce ideas or raise questions not typical for their age group;
- show concern for broad societal problems;
- recognize how personal beliefs, values, and biases affect decisionmaking;
- show skills in compromising; and
- are willing to look at both sides of an issue.

This list is far from complete, but can be used as a starting point in training teachers, then extending it as they have experiences integrating thinking into curriculum materials and instructional activities which can enhance student achievement.

The work of Raths et al. and Chuska suggest that these are important "frames" and viable strategies that teachers need to incorporate in their efforts to increase student achievement through the development of thinking skills.

Sources

Raths, L. E. (1986). *Teaching For Thinking Theory, Strategies, and Activities for the Classroom.* New York City: Teachers College Press.

Chuska, K. R. (1986) . *Teaching the Process of Thinking, K-12.* Bloomington, Indiana: Phi Delta Kappa Educational Foundation.

STUDENT ACHIEVEMENT AND PARTNERSHIPS

There appears to be a growing consensus among educators that schools cannot and should not be solely *responsible for their own improvement.* As a result, it is becoming increasingly clear that schools need to work in cooperation with other entities as a means of being truly responsive, relevant, and sensitive to those they serve. Partnerships with parents, the business/private sector, and others in the larger community represent a logical and practical way for schools to enhance their resource/expertise base in the pursuit of excellence and effectiveness.

Schools seeking to become involved in partnerships need to carefully consider how such endeavors are organized, activated, maintained, assessed, and extended. Successful partnerships are those that actively involve all participants in the planning, as well as implementation, process. Schools that become engaged in partnership efforts to enhance student and staff success must realize that all levels of the educational process can benefit from the involvement of appropriate partners.

In preparing teachers to use partnerships in facilitating student achievement, teacher trainers should consider the following steps in developing effective partnerships:

- Establish a working list of school needs, issues, concerns, from school staff, parents, and others.
- Establish a pool of potential partners— identify, contact, and organize interested persons.
- Prepare a plan of action— set goals and objectives, specify strategies, set outcomes and benefits.
- Put plan of action into operation— implement at an appropriate time, keep the momentum going, and respond quickly to problem areas.
- Nurture partnership efforts— meet regularly with purpose, ensure input from everyone and use a variety of communication strategies.
- Assess partnership success—how well were goals accomplished? Were partners satisfied? How effectively were resources used?
- Extend the partnership effort by securing new partners, expanding activities, making partnerships integral to the school program.

In its report "Challenges to Urban Education: Results in the Making," the Council of Great City Schools recommends ways in which different types of partners can help schools "to be the best that they can be." Among the suggestions are:

- School districts can establish citizen review panels to advise school officials and conduct assessments of parent involvement programs' effectiveness.
- State governments can disseminate information about successful parent/community involvement models and provide funding for parent-home-school efforts with at-risk students.
- Local governments can coordinate family programs with schools and conduct parent involvement/support ad campaigns.
- The private sector can help fund parent involvement programs and provide work-release time for parent employees to be involved at school.
- Colleges and universities can provide involvement/partnership training for teachers and administrators and conduct research studies on the effect of partnerships on school/student success.
- The federal government can strengthen parent/community provisions in existing programs and enact legislation encouraging parent involvement in schools as part of workfare.
- Community organizations can recruit school volunteers and disseminate public school program information to parents.
- Churches can donate space in buildings and help to instill in members of their congregations greater value for education.
- Parents can learn more about school programs and participate in schooling efforts at a level that fits their own knowledge, understanding, skills, experiences, time, and interests.

In learning how to share the teaching/learning process with these partners, teachers, through their teacher training experiences, can take a "giant step" toward increasing the effectiveness of their classroom instruction and the academic success of their students.

Source

Challenges To Urban Educations: Results In The Making. (1987). Washington, D.C.: A Report of The Council of the Great City Schools.

STUDENT ACHIEVEMENT AND TECHNOLOGY

Technology in many emerging shapes and forms presents educators with a largely untapped and unknown resource for increasing student achievement, as well as improving schools.

Some teachers still question how technology affects student, classroom, and school success. Without guidance from teacher educators who have the knowledge to minimize these concerns, technology will continue its rapid development but fail to reach its potential to enhance classroom instruction and student achievement. There seems to be a need for teacher trainers to provide more information from the literature on research, evaluation, and developing programs that can be used by teachers in developing strategies for using technology as a means of enhancing school improvement. This kind of information from teacher trainers will be particularly helpful since most district-, school-, and classroom-, level staff lack the time to unearth it themselves.

Hannifin, Dalton, and Hooper (1987) indicate that resistance to more widespread use of technology (i.e., computers) in education is due to a lack of understanding by educators, students, and the educational system as a whole, regarding its potential impact. Hannifin et al., discuss ten myths that must be "debunked" in order for there to be wider use of computers in schools. They are as follows:

1. Teachers are too busy.
2. Computers are "fads"-, here today, gone tomorrow.
3. Computers are too costly.
4. Computers provide impersonal learning environments.
5. Computer-based instruction is not cost effective.
6. Computers are not widely available in schools.
7. There is an inadequate supply of well-designed software.
8. Computers are only useful for low-level basic skills teaching.
9. There are insufficient opportunities for computer teacher training.
10. Computers will replace teachers.

Hannifin et al. also identified a set of 10 "real" needs concerning the use of computers in education:

1. More comprehensive curriculum featuring computer-based activities and methods;
2. "Friendlier" computers ;
3. Wider cost-sharing arrangements;
4. More emphasis on local area networks;
5. Higher teacher enthusiasm to equal student enthusiasm;
6. Emphasis on supporting, not adding to, the role of teachers;
7. Commitment to school improvement through change;
8. Teacher training with emphasis on integrated computer classroom use;
9. More and better research on technology usage in schools; and
10. Broader emphasis on computer experiences and opportunities for disadvantaged as well as under-represented learners.

Hannifin et al. state that these myths and needs are not all-inclusive with respect to educators. Their intention was to challenge several prominent misconceptions and provide insights on overcoming some of the critical barriers. As they so aptly state, "myths evolve from misconceptions, but needs reflect true barriers."

Brandon's (1988) seven conclusions concerning recent developments in technology related to instructional software and hardware for education provide some insight for planners:

1. Instructional software developers too often use outdated instructional methods.
2. Instructional software and hardware have been little used in elementary and secondary schools.
3. Results from research on the effectiveness of instructional software has shown some benefits from the use of computers, but many of these studies are flawed.
4. Research is needed regarding the use of different instructional technology methods.
5. Of those uses for computers that have not been systematically examined in research studies, some uses seem promising while others do not.

6. Computer use will probably bring about few major changes in the schools during the next few years.
7. Little new hardware to improve instructional practices is anticipated for development during the next few years.

These conclusions can be useful to teacher trainers as they help prepare teachers in planning for, initiating, supplementing, and evaluating technology as a means of enchancing learning and student achievement. Such insights can serve as touchstones for teachers as they configure the most effective ways of using technology to complement strategies for improving classroom instruction. Progress can be made in determining how to best integrate this tremendous resource-technology-into the educational system, but with some caution, as the following description of a scene in a London computer shop indicates:

"Is this electronic device any good?" a customer asked. The salesman echoed, "My dear Mr. Shelling, this is a most remarkable machine. It is, in fact, so efficient that our firm guarantees that it will cut your workload in half!"

"I say!" exclaimed Mr. Shelling. "You're not simply puffing the product to make a sale?"

"Mister Shelling! A written guarantee accompanies each of our DR-209s, precisely stating that the instrument will cut an executive's workload by fifty percent!"

"By Jove! In that case I'll take two of them."

Sources

Hannifin, M. H., Dalton, D. W., & Hooper, Simon. *(1987). Computers in Education: Ten Myths and Ten Needs.* (Volume XXVII, No., 10) Educational Technology.

Brandon, P. R. (1988). *Recent Developments in Industrial Hardware and Software.* (Volume XXVIII, No. 10) Educational Technology.

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